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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,776	06/08/2006	Mario Gauthier	BCGP101US	1330
23623	7590	01/26/2010		
TUROCY & WATSON, LLP 127 Public Square 57th Floor, Key Tower CLEVELAND, OH 44114			EXAMINER	
			MCULLEY, MEGAN CASSANDRA	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			01/26/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/561,776

Applicant(s)

GAUTHIER ET AL.

Examiner

Megan McCulley

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 3, 4, 5, 6, 7, 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knauss (U.S. Pat. 6,255,424) in view of Yamamoto et al. (JP 2002-105209). The English language translation of the Japanese patent is used for the citations below.

Regarding claim 1, 3, 4, 5, 13: Knauss teaches a process for synthesizing dendritic polymers (abstract) by grafting/coupling a second polymer onto the first, the second polymer being a living polymer having a single living end (abstract) with an anionic reaction (col. 3 lines 50-55).

Not disclosed is the first polymer is a polydiene epoxidized with a peroxy compound. However, Yamamoto et al. teaches making a comb/arborescent polymer (para. 1) comprising epoxidizing a polybutadiene or polyisoprene (para. 7), and grafting reacting with a second polymer (para. 6). The epoxidizing agent is hydrogen peroxide (para. 8). Knauss and Yamamoto et al. are analogous art since they are both concerned with the same field of endeavor, namely synthesizing dendritic polymers. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the epoxidized polydiene of Yamamoto et al. with the method of Knauss and would have been motivated to do so to achieve an extremely stable polymer with a desired comb shape, as evidenced by Yamamoto et al. (para. 1).

Regarding claim 2: The first and second polymers of Knauss are linear (col. 8 lines 5-10) and homopolymers or copolymers (col. 7 lines 40-45).

Regarding claim 6: Knauss teaches further functionalizing the formed dendritic polymer and reacting with further polymers (col. 4 lines 43-55).

Regarding claim 7: Knauss teaches a promoter/initiator (col. 11 lines 5-10).

8-11 Knauss teaches a lithium/metal ion salt as the promoter (col. 11 lines 5-10 and fig. 3).

Regarding claims 8-11: Knauss teaches a lithium/metal ion salt as the promoter (col. 11 lines 5-10 and fig. 3).

Regarding claim 14: Knauss teaches the second polymer can be styrene or substituted styrene (col. 3 lines 35).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Knauss (U.S. Pat. 6,255,424) in view of Yamamoto et al. (JP 2002-105209) as applied to claim 11 set forth above and in view of Huyskens, P.L., et al., J. Molecular Liquids, (1998), 78, 151. The English language translation of the Japanese patent is used for the citations below.

Regarding claim 12: Knauss teaches the basic method as set forth above. Not disclosed is the initiator is lithium chloride or lithium bromide. However, Huyskens et al. teaches using LiCl instead of an alkyl lithium initiator (abstract). Knauss and Huyskens et al. are analogous art since they are both concerned with the same field of endeavor, namely polymerizing styrene monomers. At the time of the invention a person having

ordinary skill in the art would have found it obvious to substitute the alkyl lithium initiator of Knauss with the LiCl of Huyskens et al. and would have been motivated to do so for such desirable properties as increased rate constant, as evidenced by Huyskens et al. (abstract).

Response to Arguments

Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection. Arguments still pertaining to the above rejection will be discussed below.

A) Applicant's argument that Knauss teaches reaction at a single functional group and cannot yield generation-based growth for arborescent polymers is not persuasive. The rejection is based on the combined teachings of Knauss and Yamamoto et al. Yamamoto et al. teaches the polydiene which would lead to multiple reaction points. The growth mechanism of growing the molecules from the inside out is not claimed. Even though Knauss teaches convergent growth instead, since the direction of growing the polymers is not claimed, the process taught in the combination of references teaches the claimed process.

B) Applicant's argument that Huyskens et al. only relates to the polymerization of polystyrene lithium is not persuasive. Huyskens et al. is concerned with the propagation of styrene (title, 2.1), as is Knauss. Further, attorney argument does not replace evidence where evidence is necessary (MPEP 2145 I). No evidence is supplied that the LiCl of Huyskens et al. cannot work in Knauss, only speculation. Huyskens et al.

discloses that LiCl acts to propagate styrene. The paragraph bridging pages 154-155 of Huyskens et al. gives motivation to use LiCl, namely in certain concentrations the addition of the additive produces an increase of the rate constant.

C) Applicant's argument that Huyskens et al. does not describe LiCl as a promoter or an initiator is not persuasive. Motivation and expectation of success for adding LiCl are disclosed in Huyskens et al. as set forth above. The fact that it is not called by the same terminology as Knauss or the instant application is not germane. The presence of the compound will function the same way as in the instant invention.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Megan McCulley whose telephone number is (571)270-3292. The examiner can normally be reached on Monday - Thursday 7:30-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

/M. M./
Examiner, Art Unit 1796